DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

File No. G4-33047
WR Doc ID: 5078865

PRIORITY DATE	WATER RIGHT NUMBER
December 19, 2011	G4-33047

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Public Utility District No. 2 of Grant County Public Utility District No. 1 of Chelan County PO Box 878 Ephrata WA 98823-0878	Carlton Acclimation Facility 320A Twisp-Carlton Rd Twisp WA 98856

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
2,000	GPM	435

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Fish Acclimation (nonconsumptive use)	2,000		GPM	435		October 1 – May 31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Okanogan	Groundwater		48 - Methow

SOURCE FACILITY/DEVICE	WELL TAG ID	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well No. 1	AEG309	5101140002	33N	22E	21	NWSE	48°20’34.63”N	120° 5’18.25”W

Datum: WGS84

Place of Use (See Map: Attachment 1)

PARCEL
5101140002

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

That part of Lot 114 of Furey, East, Pfau, and Musson's Plat No. 1, located in Section 21 of T. 33 N., R. 22 E.W.M., Okanogan County, Washington, further described as follows:

> Commencing at the southeast corner of said Lot 114, thence NW 89°40'00", along the southerly boundary line of said Lot 114 (common with the northerly boundary line of a road as platted now know as Duncan Road), for 523.1 feet, thence leaving said boundary line NW 00°19'00" for 257.98 feet to the true point of beginning, thence from said point of beginning, continuing NW 00°19'00" for 627.71 feet to the northerly boundary line of said Plat No. 1, thence along said boundary line NE 85°26'03" (Plat bearing NE 85°28'00") for 219.80 feet, thence NE 82°24'12" (Plat bearing NE 82°29'10") for 20.98 feet, thence leaving said boundary line SE 00°19'00" for 646.66 feet, thence SW 89°41'00" for 240.00 feet to the true point of beginning containing 3.51 acres.

Proposed Works

The Carlton Acclimation Facility is supported by one well. Well No. 1 was advanced to 164 feet below ground surface (bgs) and completed with a 40-slot screen from 110 to 160 feet bgs. Static water level is approximately 12 feet bgs. The well will be equipped with submersible pump(s) capable of a flowrate of up to 2,000 gallons per minute (gpm). Groundwater will be used to control frazil ice on the surface water intake screens and to supply emergency flows to the acclimation tanks in the event of a surface water intake failure.

The existing facility is supported by water right No. S4-30055 authorizing 14.9 cfs and 2,187 ac-ft/yr, February 15 through April 30. In addition, the planned expansion of the facility will be supported by S4-33061 authorizing 7.5 cfs and a total of 2,469 ac-ft/yr, October 1 through February 14 and May 1 through May 31.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	June 1, 2015	June 1, 2020

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (cfs)

Provisions

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use",

WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.

Instream Flow Limitations
When Methow River flows are below the minimum instream flows specified in WAC 173-548-020(2) for control point 12.4499.50, river mile 6.7, Grant PUD may not fill or charge the Carlton Facility's rearing tanks. Base flow hydrographs, as represented by Figure 1 in the document entitled "water resources management program, Methow River basin" dated 1976, shall be used for definition of base flows on those days not specifically identified in WAC 173-548-020(2).

Easement and Right-of-Way
The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts
Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G4-33047, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser

Signed at Yakima, Washington, this _____ day of _____ 2013.

_____

Mark Kemner, LHG, Section Manger
Water Resources Program/CRO
Department of Ecology

If you need this document in an alternate format, please call the Water Resources Program at 509-575-2490. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

BACKGROUND

Project Description

On December 19, 2011, Public Utility District No. 2 of Grant County (Grant PUD) filed application No. G4-33047 requesting appropriation of public groundwater to support a fish acclimation facility. The applicant proposes to withdraw 2,000 gallons per minute (gpm) and a cumulative annual withdrawal volume (Qa) of 435 acre-feet per year (ac-ft/yr). The purpose of use is for over-winter fish acclimation, October 1 through May 31.

The Carlton Acclimation Facility is located on the south bank of the Methow River in Water Resource Inventory Area (WRIA) 48, approximately 2 miles downriver of Twisp. The large-scale facility will over-winter acclimate up to 220,000 summer Chinook salmon. Groundwater will be used at the facility to control frazil ice on the surface water intake screens and to supply. The primary water supply to the facility is surface water (Nos. S4-30055 and S4-33061).

Table 1
Summary of Application No. G4-33047

Attributes	*Proposed*
Applicant	Public Utility District No. 2 of Grant County; and Public District No. 1 of Chelan County
Application Received	December 19, 2011
Instantaneous Quantity	2,000 gallons per minute (gpm)
Source	1 well
Point of Withdrawal	NW¼, SE¼, Section 21, T. 33 N., R. 22 E.W.M.
Purpose of Use	Fish Acclimation
Period of Use	October 1 through May 31
Place of Use	Carlton Acclimation Facility within the NW¼, SE¼, Section 21, T. 33 N., R. 22 E.W.M.

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

- **Public Notice**
  Notice of the proposed appropriation was published in the *Wenatchee World* of Wenatchee, Washington, Methow Valley News of Twisp, Washington, and Omak Chronicle of Omak, Washington on July 10 and 17, 2013. No protests were received by Ecology.

- **State Environmental Policy Act (SEPA)**
  The subject application is categorically exempt under SEPA (WAC 197-11-305 and WAC 197-11-800(4)) because the instantaneous quantity is less than the 2,250 gpm threshold. However, a SEPA review for the project (including the corresponding surface water diversion)

was completed by Grant PUD and concluded with a Determination of Non-significance issued on June 14, 2012. No comments were received.

- **Water Resources Statutes and Case Law**
  Chapter 90.03 RCW authorizes the appropriation of surface water for beneficial use and describes the process for obtaining a water right. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340. Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by Aspect Consulting, LLC (Aspect Consulting) under Ecology Cost-Reimbursement Agreement No. ASP009 (master contract No. C1000185).

Priority Processing

The Grant PUD requested that Application No. G4-33047 be processed under WAC 173-152-050(2)(c), commonly known as the Hillis Rule. This rule allows Ecology to prioritize the processing of new water right applications that are non-consumptive, and include qualifying measures that substantially enhance or protect the quality of the natural environment.

Guidance regarding classification of water uses as non-consumptive for concurrent use of groundwater and surface water is given by Ecology's Water Resources Program, Policy POL 1020 (Ecology 1991). The policy defines water use as non-consumptive when "water captured is returned in close proximity to the source immediately after use" and direct hydraulic continuity between the source and point of discharge is unequivocal. Likewise, WAC 173-152-020 defines non-consumptive use when "…there is no diminishment in the overall amount or quality of water in the water source".

The second criterion for priority processing is that the new use will provide for significant environmental benefit. Grant PUD is committed to mitigate for unavoidable loss from operation of the Priest Rapids Hydroelectric Project. Application No. G4-33047 will directly support enhancement and supplementation of summer Chinook salmon in the Methow River basin. Therefore, Ecology has concluded that the subject applications also meet the environmental enhancement criterion for priority processing under WAC 173-152-050(2)(c).

INVESTIGATION

Aspect Consulting reviewed available documents pertaining to the application's site conditions, projected water usage and demand, and the potential effect on existing water right holders and instream flows. This included the information submitted by the applicant and pertinent Ecology records. Most notably, it included review of the Grant PUD's Hatchery and Genetic Management Plan (HGMP) summarizing the recommendations of the Priest Rapids Coordination Committee (PRCC) Hatchery Subcommittee. Grant PUD must meet the terms and conditions of the Priest Rapids Project Salmon and Steelhead Settlement Agreement for the Priest Rapids Hydroelectric Project. These requirements are incorporated into the new Federal Energy Regulatory Commission (FERC) License, issued April 17, 2008, for continued operation of the Priest Rapids and Wanapum hydroelectric dams located on the Columbia River.

A site visit was performed on July 28, 2011. Tyson Carlson of Aspect Consulting and Kelsey Collins representing Ecology met with Ross Hendrick of the Grant PUD. The site visit included inspection of the proposed point of withdrawal and place of use, and an interview with the applicant.

Project Description

The PRCC Hatchery Subcommittee oversees the development, implementation, and monitoring of species-specific hatchery programs designed to supplement naturally producing populations, including spring, summer, and fall Chinook, steelhead, sockeye, and coho salmon. The HGMP (Grant PUD 2009) presents the supplementation program specifically designed for summer Chinook salmon in the Methow River. The purpose of the program is to mitigate for unavoidable mortality of summer Chinook salmon at the Priest Rapids and Wanapum Dams as well as to conserve, enhance, and supplement the naturally spawning Methow River summer Chinook salmon. The ultimate goal of the supplementation program is the annual release of up to 220,000 summer Chinook smolts to the Methow River.

Adult holding, spawning, incubation, and early rearing activities will occur outside of the Methow River Basin at the Eastbank Hatchery, but final acclimation will be required at the Carlton Acclimation Facility located within the basin. Fish will be transported from the Eastbank Hatchery to the facility in October, acclimated over the winter, and then released in May to the Methow River.

Site Description

The Carlton Acclimation Facility is an existing facility owned by the Chelan County Public Utility District No. 1 and operated under contract by the Washington Department of Fish & Wildlife (WDFW) to acclimate summer juvenile Chinook salmon. The facility is located approximately 2 miles downriver of Twisp, on the south side of the Methow River in the northwest quarter of the southeast quarter of Section 21, in Township 33 North, Range 22 East Willamette Meridian.

The existing facility consists of a single membrane-lined earthen acclimation pond and supporting infrastructure, including the river diversion, point of return, and several small buildings for equipment operation, shelter, and storage.

The Grant PUD proposes to develop additional acclimation facilities at the site consisting of eight 30-foot diameter circular acclimation tanks and supporting infrastructure, including additional water distribution and return piping, fish release and tank drain piping, and support buildings. In addition, a groundwater well will be constructed and a distribution manifold will added to the existing point of diversion to control frazil ice accumulation on the intake screens.

The new point of withdrawal (well tag no. AEG309, referred to as Well No. 1) is located immediately south of the existing pond, approximately 230 feet from the Methow River. Well No. 1 completed with a 12-inch diameter casing and a 40-slot well screen assembly from 110 to 160 feet below ground surface (bgs). Following completion, testing of Well No. 1 indicated an average transmissivity of approximately 57,950 ft^2/d. Based on calculated aquifer parameters and availability drawdown, Well No. 1 was rated for a maximum sustainable flowrate of 2,000 gpm (Anchor 2012).

The testing results are reflective of the highly transmissive nature of the valley aquifer – a coarse-grained unconsolidated deposit, comprised mostly of sand and gravel, with lenses of silt or silt-bound gravel. When in close proximity to the river, groundwater continuity with surface water is high, as supported by the presence of a positive boundary condition observed during testing. In addition, inspection of the Well No. 1 boring log indicates that sand and gravel was encountered from ground surface to a depth of 164 feet bgs. No confining or lower permeability layers were observed. Additional information regarding well testing and geologic setting is available in the Carlton Pond Well Drilling and Testing Results (Anchor 2012).

Well No. 1 will be equipped with a submersible pump capable of a flowrate of up to 2,000 gpm. Water will be conveyed to and discharged onto the surface water diversion structure to control frazil ice, or used as emergency backup supply should the surface water intake fail. Demand to control frazil ice will depend on frequency and length of extreme cold weather during fish acclimation, October to May, conservatively estimated to be up to 7 weeks per year.

Agency Consultation Process

Ecology has sought consultation with the U.S. Bureau of Reclamation (Reclamation) who controls all un-appropriated waters of the Columbia River above Priest Rapids Dam – including all tributaries and groundwater that are in continuity. Reclamation subsequently granted a release of water for the subject application via email received on July 11, 2013.

During the early stages of the application process, the Grant PUD solicited support from numerous entities, including those participating on the PRCC Hatchery Subcommittee – the group responsible for overseeing the development, implementation, and monitoring of specific hatchery programs designed to supplement naturally producing populations of spring, summer, and fall Chinook, steelhead, sockeye, and coho. The group includes technical representatives from NOAA Fisheries, WDFW, the United States Fish and Wildlife Service, and local Native American tribes, including the Tribes and Bands of the Yakama Nation and the Confederated Colville Tribes. PRCC Hatchery Subcommittee support for the Carlton Acclimation Facility is documented in many committee-approved meeting minutes.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above and in referenced FERC relicensing documents. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation is a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In accordance with RCW 90.54.020(1), the proposed appropriation for fish acclimation is a beneficial use of water. As detailed on the Application for Permit, the point of withdrawal will be supported by the necessary infrastructure to deliver the full appropriation of water to the acclimation facility. The rate at which the water will be withdrawn is needed to control frazil ice on the surface water intake screen or to supply emergency backup to sustain up to 220,000 summer Chinook salmon during the over-winter acclimation period.

Availability

Based on the information summarized above, we conclude that the quantity of water requested for use in this application is available for appropriation. Groundwater will be withdrawn from the valley aquifer in high continuity with the Methow River. Water will be returned to the Methow River in the same amount as is withdrawn immediately after use, at a point in close proximity to the point of withdrawal. The appropriation is therefore defined as non-consumptive concurrent use of ground and surface water.

Inspection of the 2012 Water Year data indicate that the Methow River just downstream of the Carlton Acclimation Facility (USGE gage No. 12.4499.50), had an annual mean discharge rate of 1,927 cfs, with a daily mean ranging from 275 to 11,200 cfs. Low flows are typically associated with late summer (September) and winter (December through March), while high flows are the result of spring runoff. Flows during the requested period of use are approximately 584 cfs (October), which drop to approximately 350 cfs (November and December) and remain relative steady through April, until increasing to over 6,687 cfs by the end of May. Compared to the available period of record (1959 to present), the 2012 Water Year was above average.

Based on this data, the quantity of water requested for use in this application is physically available for non-consumptive appropriation.

Potential for Impairment

RCW 90.03.290 and RCW 90.44.060 require a determination that a new appropriation will not impair existing rights. There are numerous water right certificates, permits, and claims for the Methow River and wells in continuity with the river.

Using the reported range of aquifer parameters for Well No. 1 (Anchor 2012), including an assumed storage coefficient of $1x10^{-4}$ (-), the governing Theis equation (Theis 1935) was used to estimate the interference drawdown from pumping at a distance approximately equal to the nearest exempt well – the neighboring residence located approximately 500 feet to the west. Based on this analysis, the interference drawdown from continuously pumping Well No. 1 at the maximum flowrate of 2,000 gpm for seven weeks is estimated to be approximately 6.5 feet, a small percentage of the more than 160 feet of available drawdown in the aquifer. In addition, this calculation does not account for the high continuity with the Methow River which would attenuate much of the calculated drawdown. In addition, no other documented water right or permit-exempt water supply well is located within a 500-foot radius. Therefore, no impairment of groundwater rights as defined by WAC 173-150 will occur.

There is also an instream flow rule for the Methow River Basin established as part of an Instream Resources Protection Program (IRPP), Chapter 173-548 WAC to protect water quality, wildlife, fish, and other environmental values, as well as aesthetics, recreation and navigation, and to meet certain future out-of-stream water needs. The IRPP defines minimum instantaneous flows in reaches defined by seven control stations throughout the Basin. The program effectively limits, and in some cases prohibits, the further issuance of consumptive water rights that could interfere with the instream flows established for these specified stream management units.

As defined by the WAC, the control point (stream gage station) that defines the stream management unit most applicable to the application under consideration is 12.449.50 (Methow River near Pateros), extending from the confluence with the Twisp River, downriver to the confluence with Wells Pool of the Columbia River. Minimum instream flows in WAC 173-548-020(2) for this stream management unit are specified year round and fluctuate seasonally from a low of 300 cfs to a high of 2,220 cfs.

Water will be returned to the Methow River in the same quantity as it is withdrawn, at a point in close proximity to the groundwater source. Filling or charging of the acclimation tanks will be subject to minimum instream flows. No diminishment in the overall amount or quality of water will occur. Therefore, because the proposed appropriation is non-consumptive, no impairment of surface water rights is expected to occur.

Public Welfare

No protests to the application were received. The proposed appropriation will support the Grant PUD's obligation to mitigate for the Priest Rapids Hydroelectric Project. Support for the project has been documented by the PRCC Hatchery Subcommittee, which includes NOAA Fisheries, WDFW, the United States Fish and Wildlife Service, and local Native American tribes, including the Tribes and Bands of the Yakama Nation and the Confederated Colville Tribes.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for fish acclimation at the Carlton Acclimation Facility is a beneficial use of water;
2. The quantity of water requested for nonconsumptive use in this application is available for appropriation;
3. The proposed nonconsumptive appropriation will not impair senior water rights; and
4. The proposed appropriation will not be detrimental to the public interest.

RECOMMENDATION

Based on the information presented above, the author recommends that the request to non-consumptively appropriate groundwater for fish acclimation be approved in the following amounts; and as provisioned on page 1 through 3 of this report.

> 2,000 gpm, 435 ac-ft/yr from October 1 thru May 31 for fish acclimation. The point of withdrawal and place of use are within parcel no. 5101140002 on the south side of the Methow River in the S½ of Section 21, T. 33 N., R. 22 E.W.M.

Report by: _____

Tyson D. Carlson, LHG, Aspect Consulting, LLC Date

Reviewed by: _____

Kelsey S. Collins, Water Resources Program Date

If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

CITATIONS

Anchor QEA 2012. Carlton Pond Well Drilling and Testing Results. Prepared for Grant Count Public Utility District. August 2012.

Ecology 1991. Water Resources Program Policy POL 1020, Consumptive and Non-consumptive Water Use. October 31, 1991.

Ecology 2004. Water Resources Program Policy POL 1021, Priority Processing – Water Budget Neutral Projects. January 21, 2004.

Federal Energy Regulatory Commission 2008. Order Issuing New License. Public Utility District No. 2 of Grant County, Washington. Project No. 2114-116. April 17, 2008.

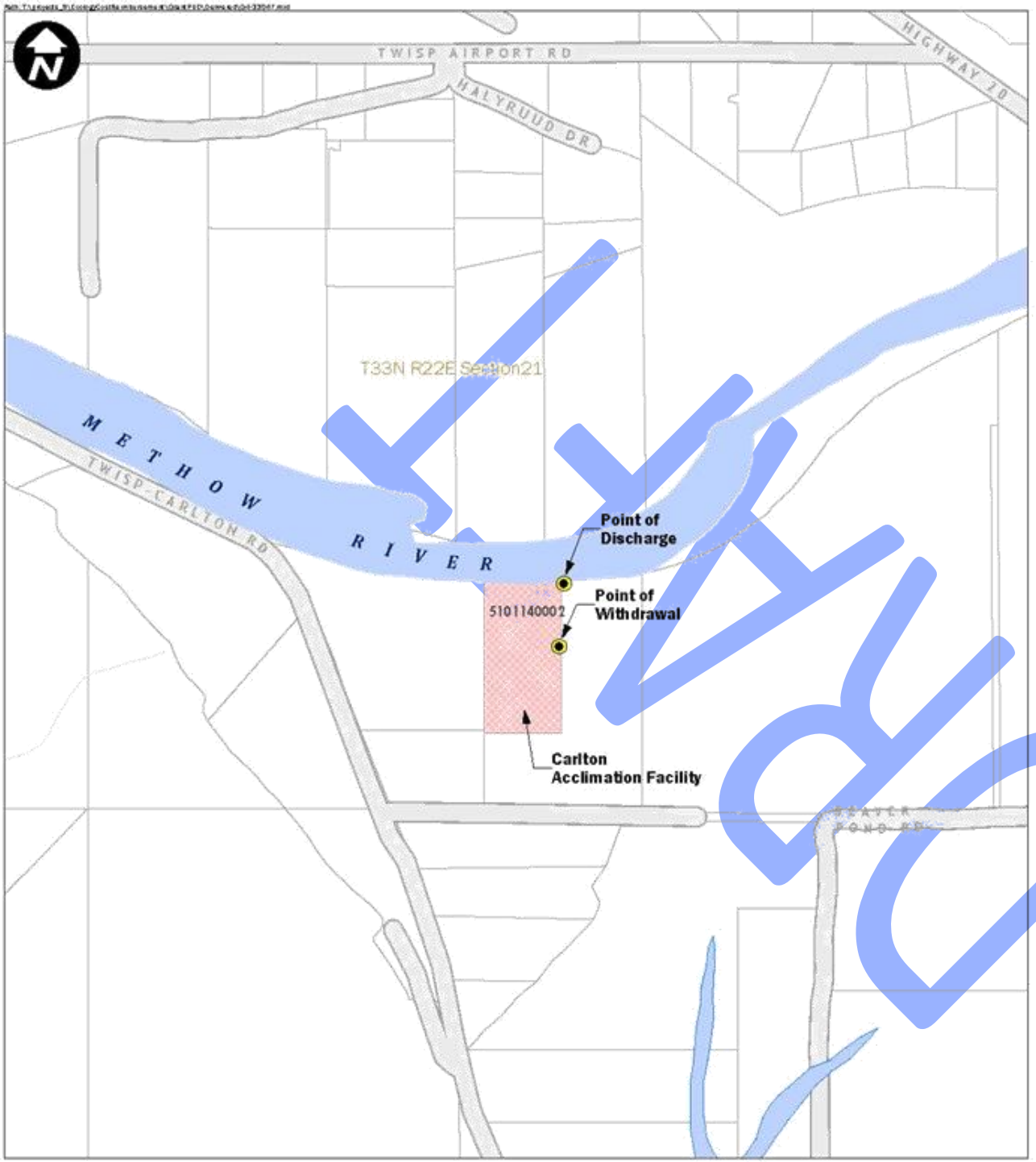
Grant PUD 2009. Hatchery and Genetic Management Plan (HGMP), Methow Component of the Upper Columbia River Summer Chinook Program – Priest Rapids Project Mitigation. September 30, 2009.

Grant PUD 2006. Priest Rapids Salmon and Steelhead Settlement Agreement. Priest Rapids Salmon and Steelhead Settlement Agreement. February 9, 2006.

NOAA Fisheries. 2008. Biological Opinion and Magnuson-Steven Fishery Conservation and Management Act. New License for the Priest Rapids Hydroelectric Project. NMFS Log Number 2006/01457. February 1, 2008.

Theis, C.V. 1935. The relation between the lowering of piezometric surface and the rate and duration of discharge of a well using groundwater storage. Trans. Amer. Geophys. Union, 2, pp. 519-524.

Washington Administrative Code, Chapter 170-548 1976. Instream Resources Protection Program for the Methow River Basin, Water Resource Inventory Area (WRIA) 48. December 28, 1976.



Comments: *Place of use and point of withdrawal are defined on the cover sheet under the heading "LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED."*

Tax Parcel No.
261612230100
Authorized Place of Use
Point of Withdrawal
Sections (TRS)
Tax Parcels

0 150 300 600
Feet

No. G4-33047
(Public Utility District No. 2 of Grant County)
T33N R22E, Sec 21
WRIA 48, Okanogan County, Washington

Aspect Consulting	July, 2013	ATTACHMENT NO.
	ASPECT PROJECT NO. 090180 / ISSUED BY TDC / EAH	1